What is claimed is:

1. An optical bio-disc for use in separating components of particulate suspension, comprising:

a separation chamber for containing a particulate suspension having a fluid component and a particulate matter component;

a fluid metering chamber communicating with the separation chamber by a first conduit, the first conduit having an entry point at the separation chamber, the entry point being accessible to the fluid component when the bio-disc is rotated causing separation of the fluid component and the particulate matter component in the separation chamber; and

a fluid assay chamber communicating with the fluid metering chamber by a second conduit.

2. The optical bio-disc of claim 1, wherein the fluid metering chamber has an elongated shape and the axis of rotation is radially closer to opposite ends of the fluid metering chamber than the axis of rotation is to the middle of the fluid metering chamber.

3. The optical bio-disc of claim 1, wherein opposite boundaries of the separation chamber are more than 10 degrees and less than 90 degrees in the same direction from a vector of rotation-induced centrifugal force extending through the center of the separation chamber.

4. The optical bio-disc of claim 1, further comprising:

an overflow chamber communicating with the fluid metering chamber by a third conduit.

5. The optical bio-disc of claim 1, further comprising:

an overflow chamber communicating with the fluid assay chamber by a third conduit.

6. The optical bio-disc of claim 1, wherein the fluid metering chamber has a U shape.

7. The optical bio-disc of claim 1, wherein the optical bio-disc has encoded information including instructions for analysis of the fluid assay chamber.

8. The optical bio-disc of claim 1, wherein the optical bio-disc has encoded information including instructions for controlling rotation of the bio-disc.

9. The optical bio-disc of claim 1, further comprising:

an antechamber in communication with the separation chamber by a third conduit.

10. The optical bio-disc of claim 9, wherein the third conduit includes first and second legs carrying particulate suspension in substantially opposite directions.

11. An optical bio-disc, comprising:

a substrate having encoded information associated therewith, the encoded information being readable by a disc drive assembly to control rotation of the disc;

an antechamber associated with the substrate;

a separation tube associated with the substrate, the separation tube in fluid communication with the antechamber;

a metering chamber associated with the substrate, the metering chamber in fluid communication with the separation tube; and

an assay zone associated with the substrate, the assay zone in fluid communication with the metering chamber so that when a particulate suspension including a particulate matter component and a liquid component is deposited into the antechamber, rotating the substrate in a predetermined manner delivers a metered amount of the liquid component to the assay zone.

12. An optical bio-disc, comprising:

a substrate having a center and an outer edge;

an antechamber associated with the substrate;

a separation tube associated with the substrate, the separation tube in fluid communication with the antechamber;

a metering chamber associated with the substrate, the metering chamber in fluid communication with the separation tube;

an assay zone associated with the substrate, the assay zone in fluid communication with the metering chamber; and

a waste chamber associated with the substrate, the waste chamber in fluid communication with the meeting chamber so that when a particulate suspension including a particulate matter component and a liquid component is deposited into the antechamber, rotating the substrate in a predetermined manner delivers a metered amount of the liquid component to the assay zone while an excess amount of the liquid component is delivered to the waste chamber.

13. The optical bio-disc of claim 12 wherein the substrate includes encoded information readable by a disc drive assembly to control rotation of the disc.

14. The optical bio-disc of claim 11 wherein the disc drive assembly includes a read beam enabled to analyze the liquid component in the assay zone.

15. A fluidic circuit in a substrate for separating and metering a liquid component of a particulate suspension from particulate matter associated therewith, the fluidic circuit comprising:

an antechamber;

a separation tube in fluid communication with the antechamber;

a metering chamber in fluid communication with the separation tube;

an assay zone in fluid communication with the metering chamber; and

a waste chamber in fluid communication with the meeting chamber so that when a particulate suspension including a particulate matter component and a liquid component is deposited into the antechamber, causing the particulate

suspension flow through the separation tube and the metering chamber delivers a metered amount of the liquid component to the assay zone while an excess amount of the liquid component is delivered to the waste chamber.

16. The fluidic circuit of claim 15 wherein the particulate suspension includes a blood sample, the particulate matter component includes at least one from the group of white blood cells and red blood cells, and the liquid component includes serum.

17. The fluidic circuit of claim 15 wherein the particulate suspension includes a urine sample, the particulate matter component includes at least one from the group of epithelial cells, casts, and bacteria, and the liquid component includes clarified urine.

18. The fluidic circuit of claim 15 wherein the particulate suspension includes an environmental water sample, the particulate matter component includes at least one from the group of dirt, biological matter, particulate contaminants, and bacteria, and the liquid component includes clarified water.

19. The fluidic circuit of claim 16 wherein when the disc is processed in an optical drive, a read beam is directed at the assay zone to analyze the serum.

20. The fluidic circuit of claim 17 wherein when the disc is processed in an optical drive, a read beam is directed at the assay zone to analyze the clarified urine.

21. The fluidic circuit of claim 18 wherein when the disc is processed in an optical drive, a read beam is directed at the assay zone to analyze the clarified water.

22. The fluidic circuit of claim 15 wherein the particulate suspension includes a blood sample, the particulate matter component includes at least one from the group of white blood cells and red blood cells, and the liquid component includes serum.

23. The fluidic circuit of claim 15 wherein the particulate suspension includes a urine sample, the particulate matter component includes at least one from the group of epithelial cells, casts, and bacteria, and the liquid component includes clarified urine.

24. The fluidic circuit of claim 15 wherein the particulate suspension includes an environmental water sample, the particulate matter component includes at least one from the group of dirt, biological matter, and particulate contaminants, and the liquid component includes clarified water.

25. The fluidic circuit of claim 22 wherein when the disc is processed in an optical drive, a read beam is directed at the assay zone to analyze the serum.

26. The fluidic circuit of claim 23 wherein when the disc is processed in an optical drive, a read beam is directed at the assay zone to analyze the clarified urine.

27. The fluidic circuit of claim 24 wherein when the disc is processed in an optical drive, a read beam is directed at the assay zone to analyze the clarified water.

28. An optical bio-disc drive assembly, comprising:

a motor for rotating a respective optical bio-disc;

means for controlling the motor so that the bio-disc is rotated in a predetermined manner;

a source of electromagnetic radiation;

means for focusing the electromagnetic radiation at a predetermined location on the optical bio-disc;

means for receiving a return beam returned from an assay zone associated with the bio-optical disc, the assay zone including a liquid component of a particulate suspension which was separated from particulate matter associated therewith by rotating the optical bio-disc in the predetermined manner; and

means for analyzing the return beam so that desired characteristics of the liquid component are determined.

29. The drive assembly of claim 28 further including means for displaying results from analyzing the return beam.

30. The optical bio-disc of claim 11 wherein the particulate suspension includes a sample of amniotic fluid, the particulate matter component includes at least one from the group of sloughed cells, cell debris, cells, vernix, and bacteria, and the liquid component includes clarified amniotic fluid.

31. The optical bio-disc of claim 11 wherein the particulate suspension includes a sample of cerebrospinal fluid, the particulate matter component includes at least one from the group of cell debris, cells, clots, and bacteria, and the liquid component includes clarified cerebrospinal fluid.

32. The optical bio-disc of claim 11 wherein the particulate suspension includes a sample of synovial fluid, the particulate matter component includes at least one from the group of cell debris, cells, clots, and bacteria, and the liquid component includes clarified synovial fluid.

33. The optical bio-disc of claim 11 wherein the particulate suspension includes a sample of pleural fluid, the particulate matter component includes at least one from the group of cell debris, cells, lipid, and bacteria, and the liquid component includes clarified pleural fluid.

34. The optical bio-disc of claim 11 wherein the particulate suspension includes a sample of pericardial fluid, the particulate matter component includes at least one from the group of cell debris, cells, lipid, and bacteria, and the liquid component includes clarified pericardial fluid.

35. The optical bio-disc of claim 11 wherein the particulate suspension includes a sample of peritoneal fluid, the particulate matter component includes at least one from the group of cell debris, cells, lipid, and bacteria, and the liquid component includes clarified peritoneal fluid.

36. A rotatable disc for use in separating components of particulate suspension, comprising:

an separation chamber, elongated along a line, for containing a particulate suspension having a fluid component and a particulate matter component, the separation chamber being oriented at an angle that is in a range of 0-45 degrees relative to a vector of rotation-induced centrifugal force extending through the center of the separation chamber; and

a fluid metering chamber communicating with the separation chamber by an entry point at the separation chamber, the entry point being accessible to the fluid component when the bio-disc is rotated causing separation of the fluid component and the particulate matter component in the separation chamber.

37. A rotatable disc for use in separating components of particulate suspension, comprising:

a metering chamber formed in a substrate of the disc for receiving a liquid during a first rotation phase, and for delivering the liquid to another chamber in the substrate in a second rotating phase.

38. The disc of claim 37, wherein the metering chamber is U-shaped with a bight portion at the outermost radial point of the metering chamber.

39. The disc of claim 37, wherein the metering chamber is substantially symmetric about a radius from an axis of rotation of the disc.

40. A method for use in separating components of particulate suspension, comprising:

at a first sustained speed, rotating an apparatus including a fluidic circuit having a separation component for holding the particulate suspension, a metering component communicating with the separation component, and an assay component communicating with the metering component, wherein centrifugal force resulting from the first sustained speed is insufficient to cause

fluid of the particulate suspension to move from the separation component to the metering component;

rotating the apparatus at a second sustained speed causing centrifugal force that is sufficient to cause the fluid to move from the separation component to the metering component and being insufficient to cause the fluid to move from the metering component to the assay component; and

rotating the apparatus at a third sustained speed causing centrifugal force that is sufficient to cause the fluid to move from the metering component to the assay component.

41. An optical disc for separating components of particulate suspension, comprising:

a main chamber having a separation chamber for containing a particulate suspension having a fluid component and a particulate matter component and a fluid metering chamber communicating with the separation chamber by a first conduit, the first conduit having an entry point at the separation chamber, the entry point being accessible to the fluid component when the bio-disc is rotated causing separation of the fluid component and the particulate matter component in the separation chamber;

a reaction chamber in communication with the main chamber; and

a capture area in communication with the reaction chamber.

42. An optical disc for separating components of particulate suspension, comprising:

a main chamber;

a reaction chamber in communication with the main chamber, the reaction chamber having a separation chamber for containing a particulate suspension having a fluid component and a particulate matter component and a fluid metering chamber communicating with the separation chamber by a first conduit, the first conduit having an entry point at the separation chamber, the entry point

being accessible to the fluid component when the bio-disc is rotated causing separation of the fluid component and the particulate matter component in the separation chamber; and

a capture area in communication with the reaction chamber.

43. A rotatable disc for use in separating components of particulate suspension, comprising:

an separation chamber, elongated along a line, for containing a particulate suspension having a fluid component and a particulate matter component, the separation chamber being oriented at an angle of approximately 30 degrees relative to a vector of rotation-induced centrifugal force extending through the center of the separation chamber; and

a fluid metering chamber communicating with the separation chamber by an entry point at the separation chamber, the entry point being accessible to the fluid component when the bio-disc is rotated causing separation of the fluid component and the particulate matter component in the separation chamber.

44. The optical bio-disc of claim 1, wherein the antechamber includes freeze-dried material.

45. The optical bio-disc of claim 1, wherein the antechamber includes anticoagulant.

46. The optical bio-disc of claim 1, wherein the freeze-dried material includes anticoagulant.

47. The optical bio-disc of claim 1, wherein the fluid metering chamber is configured to retain a controlled amount of fluid after termination of fluid flow through the fluid metering chamber.

48. The optical bio-disc of claim 1, wherein the location of the entry point at the separation chamber corresponds to an expected composition of the particulate suspension.

49. The optical bio-disc of claim 1, wherein the location of the entry point at the separation chamber corresponds to an expected volume of particulate matter component in the separation chamber.

50. The optical bio-disc of claim 1, wherein the fluid assay chamber further comprises a target zone bearing a bioactive agent.

51. The optical bio-disc of claim 1, further comprising a reaction chamber communicating with the fluid metering chamber.

52. The optical bio-disc of claim 1, further comprising a reaction chamber communicating with the fluid assay chamber.

53. The optical bio-disc of claim 1, wherein the fluid assay chamber further comprises first and second target zones bearing respective sets of bioactive agents, the first target zone being disposed upstream of the second target zone.

54. The optical bio-disc of claim 1, wherein the fluid assay chamber includes freeze-dried material.

55. The optical bio-disc of claim 51, wherein the reaction chamber includes freeze-dried material.

56. The optical bio-disc of claim 1, wherein the fluid assay chamber includes a bioactive agent.

57. The optical bio-disc of claim 51, wherein the reaction chamber includes a bioactive agent.